

# COOP'S TECHNOLOGY DIGEST

**-A Timely Report on The World of Communications-**

**Published** as a confidential industry newsletter ten times each year by electronics and technology author Robert B. Cooper. Reports here are sourced checked for accuracy prior to publication; readers are cautioned to conduct their own verification of data prior to formulating business judgements based upon reports here. Data of unverified authenticity may be so-labelled as a guide to reader caution. The publisher draws upon 39 years of leading edge electronic industry media experience but can be misled by those with clever agendas. Entire contents Copyright 1999 by Robert B. Cooper: when 'lifting' material, please be courteous enough to credit source (i.e., "*As reported in Coop's Technology Digest for ...* "). CTD accepts no advertising nor source payment for publication of information here. **Making "extra copies" for staff use without our written permission is a violation of our copyright;** whether the entire publication or portions. Reasonable "replication" rights are available to those who find the need to "share" contents with non-subscribers. Query to Gay Cooper at 64-9-406-0651.

**MARCH 5, 1999 ISSUE 99-02-55**

## **-IN THIS ISSUE-**

PanAmSat's Brave Face (PAS-8 Enigma) -p. 2  
Arguments About Importing DVD Continue -p. 7

## Technology Bytes - Industry News Update

AsiaSat 3 Launch -p. 12; CMT to encrypt -p. 12; Orion 3 launch delayed to May 1 -p. 12; Orion says it is not so -p. 12;  
Aurora Stumbles Ahead -p. 13; Disadvantaged Terrestrial Viewers in Australia -p. 14; New satellite for 172E -p. 14;  
NHK problems with PAS-8 -p. 14; Broadcast Australia annual show -p. 15; Deutsche Welle rearranges Euro bouquet radio -p. 15;  
Foxtel satellite launch -p. 16; UEC single chip IRD at A\$525? -p. 16;  
Report: Piracy cards in Australia not European in origin -p. 17; Aurora project TV and Radio listings -p. 18;  
15 hour VHS recorder -p. 19; How rental DVD works -p. 19; Chinese built region-free DVD player in UK -p. 20;  
Zenith and Pace IRD problems for Sky NZ -p. 21

**REACHING CTD: Telephone (64) (0)9-406-0651; 24 hour fax (64) (0)9-406-1083.  
email [Skyking@clear.net.nz](mailto:Skyking@clear.net.nz).  
Next scheduled issue: April 7, 1999**

## **COOP'S TECHNOLOGY DIGEST / SUBSCRIPTION INFORMATION**

There are ten (10) issues per year on a schedule dictated by industry events. The readership includes telecommunication industry consultants, state and privately owned broadcasters/telecasters, brown goods importers, retail stockists, installation and maintenance firm personnel, educators, regulatory agency personnel, business investors and Sir Arthur C. Clarke. All copies sent via airmail / Fast Post, world-wide. Annual subscription fee is as follows: Within New Zealand - \$250; within Australia, through AV-COMM Pty Ltd., PO Box 225, Balgowlah, NSW 2093 (tel [61]-2-9949-7417 and fax [61]2-9949-7095). Outside of NZ and Australia, US\$250 per year. Outside of Australia, make out subscription payment and mail to:  
**Robert B. Cooper, PO Box 330, Mangonui, Far North, New Zealand**

***NOW - Our Sixth Year of Service to the Pacific***





# COOP'S TECHNOLOGY DIGEST

March 5, 1999 ♦ VOLUME 99-02-55

**COOP'S TECHNOLOGY DIGEST is published 10 times each year by Robert B. Cooper. The complete content is copyright 1999 by the author and may not be reproduced nor extracted without our written permission.**

## PanAmSat's Brave Face

PanAmSat when wed to the Hughes Galaxy network of satellites in mid 1998 became the second largest operator of geostationary satellites in the world - right after Intelsat. Based upon current projected new satellite launchings, PanAmSat will be the largest satellite operator in the world before the year 2005. Big is not always perfect.


PanAmSat PAS-8, their second satellite to operate in the Pacific and Asian regions, was launched last November. The launch went off with no major problems although the planned live television coverage of the launch was marred when competitor Intelsat failed to provide the necessary live link from Moscow (the launch was with a Russian Proton vehicle) to the PanAmSat network. The relationship between PanAmSat and Intelsat has never been cordial - PanAmSat battled uphill to gain approval for its first (PAS-1) satellite more than 14 years ago against fierce road blocking action administered by Intelsat. Even today, there are many areas where the two do not co-operate. For example, PanAmSat refuses to share its satellite receiver authorisation codes with Intelsat and if a receiver is first authorised for service via a PanAmSat satellite, and later wishes to change to an Intelsat satellite and a new service, the paperwork and long delays demanded by PanAmSat are all but insurmountable (see SatFACTS December 1998, p. 22).

If PAS-8 was a successful launch, what followed next was not. Normally a new satellite goes from launch to commercial operation in under 45 days. AsiaSat 2 did this in 25 days, Palapa C1 in 21 days. PAS-8 will have been in the air 4 full months on the day this issue of CTD is mailed - and commercial service is still in a test phase. The reasons are many.

PAS-8 is to allow PanAmSat capacity to more than double for the Pacific and Asia. Its older non-identical twin, PAS-2 at 169E, was launched in 1994. PAS-2 employs a somewhat unique satellite design with 16 C-band transponders. PAS-8 has (the more conventional) 24 transponders but the two satellites have the same operating bandwidth. In other words, PAS-2 transponders are individually bigger or fatter but the sum of each is identical. By planning, PAS-2 and PAS-8 sit next to one another inside of the geostationary orbit belt but because they are of two different designs with incompatible transponder alignments, this causes potential operational problems on the ground. What this means is that any existing C-band antennas pointing at PAS-2 (169E) must be large enough in physical size that the antenna does not "see" the signals on PAS-8 at the same time. The minimum size that can be used for either PAS-2 or PAS-8 is therefore determined by the possibility of interference on the ground from the two satellites. The answer here is that any antenna smaller than 3.1 metres in diameter is too small to provide interference free reception.

However, in fact the signal strength or "footprint" level from each of the two satellites would allow antennas as small as 1.8 metres in prime locations. Many users of PAS-2 have antennas smaller than 3.1 metres now operating. As PAS-8 and PAS-2 fill up with user signals, these smaller dishes will have to be replaced with larger dishes to avoid interference between the satellites.

Not all of the PAS-8 coverage zone imitates the PAS-2 coverage. In particular, coverage to Fiji and areas east through to Tahiti are basically out of the PAS-8 coverage zone. Some quantity of terminals (estimated at under 100) who presently take PAS-2 service from programmers such as CNN, EWTN, TNT/Cartoons, NHK will find they are without service when these programmers are moved to PAS-8.



Digitized by the Internet Archive  
in 2024 with funding from  
Amateur Radio Digital Communications, Grant 151

<https://archive.org/details/Coops-tech-digest-1999-03>



PanAmSat is taking steps to reduce to a minimum the number of locations where PAS-2 presently reaches but PAS-8 will not. In one of the most ambitious antenna "seeding" projects to date, PanAmSat is offering nearly 3,000 dish antenna systems to present users of PAS-2 to allow them to transition to PAS-8. PanAmSat is picking up the cost of a dish (they range from 3.1 to 5 metres in size depending upon location), a special dual-satellite feed system (more about that shortly), four (California Amplifier) LNBs, (Chaparral) dual polarity feeds (two per dish), even 400 metres of cable plus the shipping of these packages to the point of entry for each country. The cable or other affiliates of PanAmSat will pay country landing fees, ground transportation and installation costs. Nobody at PanAmSat has identified the cost to the satellite company - but US\$2,000 per dish seems a likely number on average. That comes to US\$6,000,000.

Why is PanAmSat picking up the cost of supplying new dishes to users of the satellite(s)? Several of the programmers now on PAS-2 are being "asked" to move to PAS-8. These programmers are the revenue source, of course, for PanAmSat. If a service such as CNN is likely to lose audience because it is being "forced" to move to PAS-8 (this being a new satellite and at least initially few users will have the required, new antenna), PanAmSat has an easier time of convincing present PAS-2 users to move to PAS-8 if PanAmSat can "guarantee" that present users will be equipped for PAS-8 by some date certain.

Moving CNN, EWTN, Discovery, CNN/Cartoons, NHK and others to PAS-8 is very important to PanAmSat. They need to "balance" the loading between the presently overloaded (too many users) PAS-2 and the new PAS-8. By "seeding" the Pacific and Asia with up to 3,000 new antenna terminals paid for by PanAmSat they can attract many new, additional users to PAS-8. It is a far easier "sell" for PanAmSat to talk new users onto a satellite which has an established universe of ground stations in place. A new satellite typically has a two to three year "burn in period" during which would-be users (that is, new programmers who seek to reach the largest possible audience from the launch of their programming) sit tight waiting for the ground station family to grow. By supplying 3,000 terminals between now and July 1st, PanAmSat jump starts the ground station universe and hopes therefore to get new programmers onto PAS-8 that much quicker. All of which translates to bigger bottom line revenue numbers for PanAmSat, more quickly.

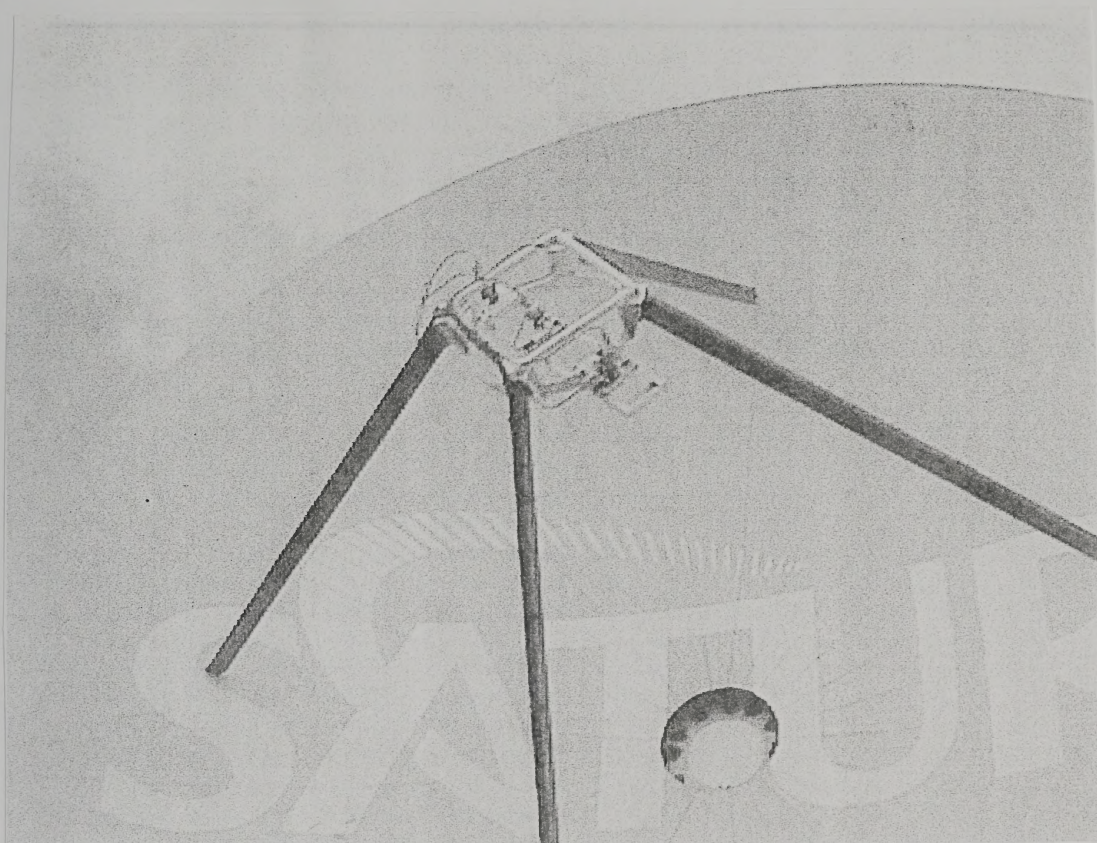
#### Two Birds - One Dish

Now, because PAS-2 is at 169E and PAS-8 is at 166E, it happens that by being half clever with the way the dish feed system is designed, it is possible - even practical - to use one dish for both satellites. PanAmSat could have supplied a dish to each of the 3,000 ground locations just for PAS-8, or, it could have the dish suppliers create a special feed system allowing simultaneous reception from PAS-2 and PAS-8. The difference in cost is relatively minor (under US\$400 per location) but to the end user - those 3,000 terminal locations - having one new dish that replaces two separate dishes for PAS-2 and PAS-8 makes excellent sense. Remember that the 3,000 dish locations are responsible for ground transport and installation of the new dish. If, by installing one new dish for two satellites, the user can eliminate the present dish for (only) PAS-2, the "free dish offer" suddenly becomes far more attractive. In many cases, the new dish will go in and the existing PAS-2 dish can then be reused for an entirely new satellite. In a sense, this is like handing US\$3,000 to each ground affiliate for his old, existing dish - and allowing him to keep his present dish.

But there are some trade offs involved. One dish shared for two satellites produces something less than the quality of reception when the same dish is used for only a single satellite. In technical terms, the signal loss on each satellite will be approximately 1 dB. This means the individual dish antennas must be slightly larger to use on two satellites than if the dish was used for only one satellite. But it happens that the dishes must be a minimum of 3 metres in size - anyhow - because anything smaller than 3 metres creates interference problems. And it also happens that in those regions where PAS-8 (and PAS-2) are strongest on the ground, a much smaller antenna than 3 metres will function - provided there is only one satellite "out there." So by raising the dish to 3 metres to accommodate the potential interference-between-satellites problem, at the same time the 3 metre dish provides sufficient extra "gain" that now the antenna can be "shared" between two satellites and still be better off in signal level than the user would have been with a smaller dish working only for one satellite. It







was a bit of "luck" for PanAmSat that they could go to the industry and basically say - "We will give you, free of most costs, a new dish for both PAS-2 and PAS-8."

The multi-feed technique is not new (dating to at least 1979) but it has been used sparingly in the Pacific and Asia. Satellite spacing is the reason. In the photo above, a Kiwi-designed and built feed installed by Wellington's Saturn Communications on a 10 metre dish recovers C-band signals from AsiaSat 2 (100.5E) and Palapa C2 (113E) simultaneously. Similar multi-satellite feeds are in the process of being installed at Saturn. A total of 17 New Zealand sites "qualify" for the PanAmSat free antenna programme. (1) Depending upon the design of the satellite dish, it is possible to obtain up to 15 degrees of coverage from a single parabola antenna. That means satellites spread across a 15

---

1/ Important contacts for the PanAmSat antenna programme include the following. At PanAmSat proper - Igor Gamarra (Manager, PanAmSat Network Engineering) at Email [igamarra@panamsat.com](mailto:igamarra@panamsat.com) (also try [antprog@panamsat.com](mailto:antprog@panamsat.com)). A web site created to explain the antenna project is found at [www.panamsat.com/antprog/](http://www.panamsat.com/antprog/). All antenna shipments are being co-ordinated by DHL Worldwide freight which is headed up by a Kiwi lady (in Detroit, Michigan) as follows: Pip McEachen, Network Global Account Manager for Ford/GM at telephone + +1-734-414-3900 (extension 211), fax + +1-734-414-3922 and Email at [pmceache@us.dhl.com](mailto:pmceache@us.dhl.com). The multi-satellite feeds are being created by Superior Satellite (1743 Middle Road, Columbia Falls, Montana 59912) at tel + +1-406-257-9590, fax + +1-406-257-9599 and web site of [www.supeiorsatelliteusa.com/html/beamovw.html](http://www.supeiorsatelliteusa.com/html/beamovw.html). Antennas in the 3 to 4.5m size are being supplied by Satellite Export & Engineering (Patriot brand) - 1007 Industrial Ave., Albion, Michigan 49224 at tel + +1-517-629-5990 and fax + +1-517-629-6690 and web site of [www.sepatriot.com](http://www.sepatriot.com). 5m (and larger if and where required) are being supplied by Superior Satellite (see contact information above). The 5m is an RSI (brand) model 500 CS which through Superior is designated the Model SSE-50-3. This antenna is a "remanufactured" product with new (stainless steel) hardware.





degree portion of the arc (such as from 165E to 180E) could be received and processed from a single antenna. Special "spherical" antennas are designed to receive an even wider portion of the satellite "arc" but at the expense of gain (very big antennas in the 9 metre class deliver performance like individual 3m antennas). Satellite users invest in (expensive) spherical antennas (which are shaped much like a banana) to save ground (real estate) space and the cost of individual mounts for separate satellite dishes. In Australia, the distribution and installation of "free" dishes for PanAmSat 2 and 8 is being handled by the national distributor for Patriot / Paraclipse antennas.

The PanAmSat antenna programme is supplying dishes and electronics to 26 countries. Programmers who have agreed to the move (EWTN, NHK, CNN, TNT/Cartoons) have an agreement with PanAmSat that involves a form of subsidy for the dishes being distributed. Discovery Channel, on the original list to change to PAS-8, is as of our publication deadline (March 3) still undecided whether it will agree to move or not. The antenna packages are backed up by elaborate installation and alignment instructions created in four languages for the regions covered.

#### Unresolved PAS-8 Problem

Early reports concerning PAS-8 testing on C-band suggested the satellite was perhaps experiencing operational problems. With test signals now functional for services such as NHK, it currently appears that at least 12 of the transponders (horizontal numbers 2 through 16, "even") are functional. Reports indicate NHK is a fraction of a dB stronger on PAS-8 than on PAS-2 over New Zealand, another test bouquet originating from California is almost precisely the same level as the "California bouquet" on PAS-2. That's the good news. The not so good news is that Fiji tests indicate where a 3m dish functioned properly there (for NHK), a 5m dish is now required for PAS-8. This "fits" the predictions from PanAmSat, is not a surprise. Australian reports relate the PAS-8 NHK signal is (like New Zealand) a fraction of a dB stronger than the same service on PAS-2.

There are also 12 vertical polarisation transponders on PAS-8 and PanAmSat advises CTD that "these 12 transponders will be of no practical use to New Zealand." It is believed the vertical polarity transponders favour SE Asia although PanAmSat has not verified this since the launch. The original pre-launch vertical transponder forecast coverage did include most of Australia at 3m dish signal levels. However, changes in the coverage of the satellite were then executed but no after-change maps have been released.

There is one potential problem still hanging over PAS-8; Ku-band coverage. It is significant that no satellite observers report any test signals through the Ku portion of PAS-8. New Zealand was never intended to be in then coverage area of PAS-8 Ku but Australia certainly is. Until mid-December, Australian pay-TV operator Foxtel was negotiating with PanAmSat for possible Ku band spectrum space on PAS-8. (2) Early in January PanAmSat was admitting they were having difficulty locating a special signal beam designed to reach their Napa (California) teleport on Ku band. By late in January, they claimed this problem had been "adjusted." Measurements of the satellite show it has been rotated on its axis by ground controllers approximately 10 degrees away from the "normal" position - an attempt to correct for what reports describe as a "Ku band transmission anomaly." What seems 99% certain is that PAS-8 has lost some of its Ku-band capability. There are 24 transponders on board, one PanAmSat source was advising a potential user of transponder space late in February, *"transponders 1 - 13 will not function as planned, transponders 14 - 24 will function."* There is confusion as to whether the still operational transponders cover Australia (it appears they do). In any event, either the Australian Ku band coverage or the Asian Ku band coverage has been compromised by this anomaly. The mystery as to why PanAmSat should not engage in at least testing of the Ku-band portion is more complex. (2) Here is what is known or believed at this time.

---

2/ One report through PanAmSat says the company failed to properly "register" and "clear" the Ku band frequencies from a location of 166E prior to launch; that Australian authorities, in particular Optus, have objected to PAS-8 Ku operation at 166E (Australia holds adjacent spots). PanAmSat claims, "this is being worked out" - another cloud over PAS-8 operation. A December (21) test using PAS-8 Ku was conducted for Foxtel with on ground readings made in Tasmania and Cairns. The tests were successful indicating the rumoured failure of PAS-8 Ku is not a situation which affects the Australian beam.





1) PanAmSat admits loss of a portion of the PAS-8 Ku capacity. Tests scheduled for the period March 5-7 involving the Australian beam should settle the quality of performance there. What is anticipated based upon the best PanAmSat data is that an uplink in California through the Australian transponders will be capable of peak levels of 52 dBW for locations such as Sydney and Perth, falling to 46 (48) dBW in Tasmania. This means antennas in the 60cm class for the best Australian locations.

2) PanAmSat suggests their important "squirt beam" that was designed to link Asia with California through the Napa (California) teleport is defective (the so-called "east/west beam"). This could mean PAS-8 cannot be "reached" from California on Ku-band, it could mean that signals originating in Asia cannot be received in California or it could mean both transmit and receive between California and PAS-8 are defective. PanAmSat is not presently clarifying the nature of the defect.

This would be an important failure, costly for PanAmSat. Ku band links from California to Australia and Asia through PAS-8 were to be the "bread and butter" of the satellite. Internet links in particular were to operate here and PanAmSat says it has a significant waiting list of potential Internet users standing by waiting for PAS-8 to go into commercial operation. Additionally, PAS-8 is scheduled to be an important link between the Australian 2000 Olympics and the USA.

3) PanAmSat sources admit that negotiations with the manufacturer of the satellite (Loral) are underway to reach an agreement concerning settlement of the defective portions of PAS-8. CTD understands the "defect(s)" have been traced to a last minute "adjustment" made to the Ku band segment of the satellite as it was to be readied in Russian for Proton launch. If Loral is responsible for the launch adjustments and this in turn makes them responsible for the loss of serviceability of PAS-8, the next step is replacing PAS-8.

PanAmSat purchased PAS-8 from Loral - an order placed before PanAmSat became a "division" of (GM) Hughes. This is a potentially embarrassing point - Hughes builds satellites, but had lost the original PAS-8 order to competitor Loral. Then while PAS-8 was being constructed, Hughes merged with PanAmSat and in the process ended up with a Loral satellite ready to launch to its otherwise Hughes built fleet.

PAS-8 was insured against loss or failure but if the failure was human caused by some careless action of a Loral employee (as is intimated by PanAmSat sources), Loral may have a difficult time protecting itself from the insurance company (it, too, carries insurance against various types of losses). Technically, PAS-8 has not yet been accepted by PanAmSat - it is still the responsibility of Loral to make it right. The official position of PanAmSat is to *"neither confirm nor deny that a situation exists with PAS-8 which involves possible defects in the satellite's operating status."* In other words, Loral has asked for additional time to try to work out some way of salvaging the PAS-8 satellite before it agrees the bird has operational problems which reduce its value to PanAmSat. The nature of the last minute "adjustments" made to PAS-8 just prior to launch, as reported to CTD, strongly suggest this satellite will be partially written off by PanAmSat - an insurance claim filed - and a new satellite built to replace PAS-8. In the interim, PAS-8 would provide "partial service" based upon its original design while the insurance carriers sort out who was responsible and where the liability may rest for the less than complete PAS-8 now in orbit. That's the worst (and best) case scenario now facing the participants.

In the short term, the previously available "sign posts" for locating PAS-8, two analogue test card signals (3860 and 4020 horizontal), have disappeared for several days as CTD goes to press. This is happening as the first 40-50 "free satellite dishes" are being distributed via DHL for PanAmSat. (3) The real number of "free dishes," potentially just under 3,000, appears ultimately to be more like 1,000 based upon early "returns" to PanAmSat. But this number is based upon eligible terminal locations minus Discovery affiliates which to our press deadline has still not agreed to the swap to PAS-8. In the end, Discovery may be the smartest of all - delaying their decision until the cloud of uncertainty now engulfing PAS-8 settles.

---

3/ The first New Zealand replacement dish arrived at Auckland on February 28. Is this costing PanAmSat big dollars? Figure it out yourself - 2,361 pounds of air freight cargo, two containers, flown by air from Montana to California, thence to Auckland. The antenna proper may well turn out to be the least expensive segment of this operation!





## **Arguments About Importing DVD Continue**

The status of DVD (digital video disc) in North America now seems clear; the new technology is a hit with video enthusiasts and is rapidly becoming a consumer item outside of the enthusiast market. In Europe, where it was launched nearly one year after the US, it continues to be largely an enthusiast supported market. The same is also true in Asia and the Pacific, but to a smaller sales volume.

As CTD has reported in past issues (see CTD 98-05-48, 98-08-51), DVD players have an imbedded "regional code" that corresponds to the location in the world where the unit was first sold. The world is divided into 6 regions and Australia + New Zealand fall into Region 4. DVD (discs) are also region coded and the intent is to thwart the sale of discs from North America to users outside of that region (Region 1). Regional coding is at the behest of the primary makers of DVD programming product, the movie distribution firms. In their business plan, movies are released according to a schedule - Region 1 (North America typically first, gradually growing to other world parts and other designated regions).

Many techniques have developed to "neuter" a player's region, making it capable of playing discs from any region of the world. This encourages player owners in Australia or New Zealand to purchase discs outside of their local sources. Because most player owners in Asia and the Pacific are presently videophiles (movie enthusiasts), they have been quick to adopt "region free" player technology because it allows them to shop for discs through North American DVD distributors. Internet is the primary marketing system with discs ordered by credit card, packaged for airmail delivery and at US prices typically in the hands of the Australian or New Zealand user with 4 to 6 days of placing the order.

The technology of choice prior to DVD discs has been the Laser Disc (LD) system. Unfortunately, LD never really caught on, was only supported by videophiles even in North America. There are physical and performance differences of DVD over LD and virtually all of these differences favour the DVD version. LD sales have plummeted world-wide as DVD sales have grown. DVD will be two years old in North America next month. There have been around 1.5 million DVD players sold through North American outlets since DVD started and players are now moving at a rate suggesting 2 million more will be sold during calendar year 1999.

DVD is a playback only technology - not unlike its technology cousin CD (audio) discs. Recordable DVD is in the wings, subject to settlement of standards issues. DVD - presently is a high technology variant of VHS tape for playing of pre-recorded movies and other materials and its fits in with the rapid expansion of digital video in terrestrial and satellite broadcasting applications. However, present DVD players are very early in design, cannot be interfaced directly with the first generation digital television sets. A DVD player may function in a digital world but the picture it shows on the viewing screen is converted back to analogue to satisfy the existence of analogue only TV sets.

When (not if) recordable DVD is available as a consumer product (it already exists in the professional world) it will compete with and eventually replace VHS tape for home recording and playback applications. There is not insignificant opposition to this change over but not from the manufacturers of the existing VHS technology equipment; as a group they are in favour of DVD because it will mean reselling home video equipment to each consumer now utilising VHS tape. Nor is the opposition to recordable DVD from the movie producers; they, too, will be able to "resell" what is basically the same movie universe now owned on VHS tape all over again, anew, on DVD disc.

The opposition comes from the main stream VHS distributors and dealers who see threats on the digital horizon that could eliminate them as middlemen to the consumers. Already DVD disc sales through Internet are setting new sales records each month with every indication that as many as 1 in 2 DVD discs sold in 1999 will be sold through Internet marketing. Moreover, Internet as a delivery mechanism is improving in quantum leaps each year with every likelihood digital video direct to the consumers recording DVD machine will be a reality within five years; or less. And then there is satellite delivery of premium movies, already done in digital format by BSkyB in Europe, DirecTV in North America and Japan. And that is not in five years - it is now.

There is one complication in the introduction of DVD - it is called DIVX. This is a variant of DVD developed by a consortium of movie producers and North American chain store Circuit City. DIVX is





designed for rental, where DVD was originally created for sell through marketing. DIVX allows the consumer to take home a disc, play it as often as they wish within a 48 hour period from the time the disc first goes into the DIVX player, and then it stops playing. The DIVX player has a telephone modem and obtains "authorisation to play" through a toll free telephone contact - all automatic and without the user's input. If the DIVX user wishes to "renew" the viewing period for an additional sequence, a fee is charged to a credit card.

DIVX has resulted in battle lines forming - those for it, those against it. Traditional video stores not affiliated with Circuit City usually describe it as a devil machine because it is costing them retail sales of DVD discs. Most movies on DIVX format are also available on DVD, but the reverse is not yet true - the range of films available on rental format DIVX is limited. There is one more difference with DIVX - after the 48 hour period, assuming the consumer has no desire to renew the playing period and pay an additional fee, the disc is simply discarded. There is no return to Circuit City; a true throw away commodity. Circuit City believes this is an advantage for consumers that allows them to not spend valuable time returning a used product to the store. The next step, of course, is to not have to go into the store to pick up the product in the first place.

Comments about all of this matriculation within Internet chat groups abound. What follows are some selected excerpts which CTD believes reflects the current concerns of the DVD world.

(From Widescreen Review)

*"With the DVD-Video format just nearing two years of age, privately owned brick-and-mortar video and Internet retailers are struggling to maintain profitability as they find themselves in the midst of a cut-throat price war to which there appears to be no end. The price war was sparked by Buy.com and followed by Amazon.com and Reel.com, a division of Hollywood Entertainment (Hollywood Video). The price war has resulted in DVD software for sale on-line at up to 60 percent off of suggested retail price with Buy.com selling all 2,500-plus existing DVD titles at \$5 or more below cost. Reel.com has just come off of a Valentine's Day promotion of DreamWorks' Antz on DVD at \$9.98, though the offer is good only for customers accessing Reel.com's site on America On Line (AOL). Customers who non-AOL access to Reel.com's site will find Antz listed at \$16.95, still \$10 below suggested retail price.*

*"How non-publicly traded retailers without deep pockets can continue to withstand the ongoing price war is becoming a growing concern and is the biggest threat to DVD-Video's continued expansion into traditional retail markets. The question is, even with deep pockets, how long will investors, including venture-capital firms, be willing to inject millions of dollars in cash hoping to capture sizeable Internet DVD retail market share without a return? With recent surveys indicating 1 in 3 DVDs is now sold on line, which impact will on-line at-cost and below-cost discounted pricing and promotions have on traditional home video retailers who cannot compete on price? How should brick-and-mortar retailers respond? What is the long term impact of deep discounting on the future of the DVD-Video market?"*

(From New York Times)

*"Life After the VCR: Choosing DVD or DIVX"*

*"My videocassette recorder, like many modern electronics devices, apparently has a special chip that detects the moment the warranty expires and then causes things to go haywire. In this case, it ate the fifth of six videotapes composing the 'Brideshead Revisited' epic and could not be coaxed into giving it back. It was a rental tape, and the video store was charging by the day. It was an expensive six-tape set, and no place would sell 'Brideshead/Book Five' alone.*

*"So I took the VCR to Circuit City to have the tape extracted. The store shipped it to a central repair depot for an estimate. Ten days later, the call came; it needed a new 'lower head' and the repair, with labour, would cost \$238. A brand new fancier hi-fi VCR was selling a few feet away for under \$200. so I declined the repair and asked the shop to simply extract the tape.*

*"Then I wandered over to look at the DVD and DIVX video players on display, next to the VCRs. The difference between the two kinds of players, and the reason I emphatically prefer one over the other, is the point of this column, if you have the patience to allow me to rant a bit.*

*"My VCR arrived back at the Circuit City store a week later. The tape was still trapped inside. Either no one in Circuit City's repair depot had even so much as bothered to take the cover off my*



VCR before writing the estimate, or they had scrupulously jammed the tape back in and then resealed the case before sending it back. I lugged the crippled VCR to the rental video store to demonstrate my good faith effort to remove Brideshead/Book 5. A customer overheard my plight and said, 'Take it to Murray'.

"*Murray worked at another neighbourhood video store.* Standing behind the cash register, in between waiting on customers, Murray grabbed a screwdriver, opened the VCR and extracted the tape. I asked him, is there any way to fix this problem?

"He shrugged. 'All you need is a new belt and head cleaning.'

"*I assumed* he was talking about the VCR, so I said OK. Murray fixed the machine while I waited, cleaned and adjusted it. Total cost including a new high grade tape to use as a head cleaner - fifty bucks. And that brings us back to DVD players.

"During the time my ailing VCR was being held hostage in the Circuit City repair depot, I decided the time had come to buy a 'digital versatile disc' player. The decision had not been easy. Although DVD players have been available since 1997, the technology is still evolving and the standards are still in flux. DVD players cost on average twice as much as VCRs, yet the consumer models cannot record anything - they can only play back pre-recorded audio and video disks. After a slow start in which some major film studios refused to release their movies on DVD - there is no DVD version of Star Wars yet, for example - some 2,500 movies are now available, still a meagre selection.

"*On the plus side,* DVDs offer much better picture quality than VHS videotapes. And when connected to a receiver capable of decoding Dolby Digital AC-3 signals - which are then pumped through a home theatre speaker system - the discs sound almost as good as sound in a movie theatre. One can also jump to particular scenes in the movie by clicking on a menu. The discs do not have to be rewound. They take up less shelf space than videotapes. Viewers can also change the shape of the picture so it is wider, as on a movie screen. And because DVD discs and audio CD discs are physically identical, almost all DVD videoplayers can serve double duty as CD players when connected to stereo.

"*DVD movies often come* with multiple-language soundtracks and subtitles, so one can listen to 'Pulp Fiction' in Spanish, for example. Some discs, like the new 'Casablanca' DVD, offer extra scenes not found on the tape version, as well as a behind the scenes documentary narrated by Lauren Bacall. Most have biographical information creating a mini-reference source for a particular film. In short, DVD is a no-brainer upgrade for film buffs, unlike the much larger laser video disk, which remains a niche format. DVD disks appear to have reached the mainstream. My local Blockbuster store now stocks two aisles of DVD rental disks, double the space of a month ago. Amazon.com has added DVD titles to its music and book catalogues.

"*One computer in my office* has a DVD-ROM drive and MPEG-2 decoder card that allows me to watch DVD movies. Without the MPEG-2 card, a DVD ROM drive is basically a fancy CD-ROM drive waiting for something interesting to happen. Watching DVD movies on the small (computer) screen is an amusing way to pass those otherwise tedious deadline hours, but it stops being fun when I want to share a movie with the family. The family is not keen, either, on the prospect of sitting on my lap for two hours in front of a 17 inch computer screen, especially since there is a comfy sofa and a big-screen television in the next room.

"*So I have taken to moving the computer* into the family room and connecting its MPEG-2 decoder card to the television set, a process that is easier than it sounds. The real hassle is disconnecting the computer from the rats' nest of cables and lugging it to the television, then carrying it back and reconnecting the wires when the movie is over. All that makes a separate DVD video player sound attractive, especially if one's VCR is in the shop. So I wandered from the repair desk to the DVD video sales section of Circuit City to see what was available.

"*The sales youth* who intercepted me opened by asking, 'Are you looking for a DIVX player?' I asked him to explain the difference between DIVX and DVD. His answer. 'Well, DIVX is better than DVD, and all of the major manufacturers are going to start making DIVX models now.'

"Uh, wrong.

"DIVX, or Digital Video Express, is a technology developed by Circuit City and a law firm in Los Angeles. It was initially offered as an 'enhancement' on certain DVD players. But it has recently





become apparent that DIVX is striving to become an alternate technical standard, one not set by technologists but rather by a bunch of entertainment industry lawyers and by the same folks who held my VCR hostage.

*"The main differences* between DIVX players and regular DVD players are that DIVX machines contain a modem and a special security chip that 'remembers' each time a given disc is played. The goal - and here is where the lawyers come in - is to make sure that the movie makers get paid every time the movie is played. Because of these 'enhancements', as the DIVX folks call them - and this is where retail electronics sales people come in - DIVX machines cost \$50 to \$100 more than comparable non-DIVX DVD players.

*"With the DIVX system,* the customer buys a movie disc for about \$5. Once the disc is put in the player, the clock starts. The movie can be viewed unlimited times in the first 48 hours. Then the customer has to pay again. Or the disk can be thrown away. 'No more late night trips to the video store to avoid late charges', DIVX proponents cheer wildly.

*"The DIVX machine* has to be connected not only to your television set but also to a telephone line, which means there had better be a phone jack near the television. Then the DIVX machine calls the mother ship at regular intervals to report every DIVX movie you watch, when you watch it, and how often you watch it. You are then sent a monthly bill. If you disconnect the phone, the DIVX player refuses to allow you to watch more DIVX movies. (DIVX players can also play regular DVD disks.)

*"The user has the option,* for an additional fee, to convert the DIVX disk to 'silver' status, for unlimited playing of the same movie but only on the one and original DVD player which began its life cycle. DIVX also announced a 'gold' programme that allows you to buy certain discs up front for unlimited viewing on any machine. In other words, DIVX 'gold' is simply an alternative to regular DVD except with regular DVD, no one is looking over your shoulder and reporting your habits and preferences to a central computer in the middle of the night.

*"Did I mention that I think DIVX is the spawn of the devil?"*

"As for everybody jumping on the DIVX bandwagon: that is not quite true either. RCA, Proscan, Panasonic and Zenith are making DIVX players today, and JVC, Pioneer, Kenwood and Harman/Kardon have indicated they will make DIVX players in addition to their regular DVD players later this year. Other manufacturers - Sony, Yamaha, Mitsubishi and so on - have so far resisted DIVX's charms.

*"Now that I have decided against DIVX,* the question becomes: What kind of DVD player should I get?"

[State of the Art by Peter H. Lewis is published by the New York Times each Thursday (Friday out here).]

Which leads us to counter warfare; a system that claims to defeat the DIVX player's ability to communicate with the "mother ship." This report also appeared in the New York Times.

*"The first code breaker for DIVX,* the pay-per-view DVD derivative from Circuit City, is being peddled on Internet - but its validity is in doubt. The box, called DIVX Hack, is said to wipe out all purchased movies in the DIVX player's memory so the DIVX owner is never billed for watching a movie.

*"DIVX players are standard DVD players* with an extra feature that allows for playing special discs that can only be viewed for 48 hours after the disc is initially activated. After that, more viewing time can be purchased. This is all done by setting up an account with Digital Video Express (DVE), the parent company and developer of the DIVX variant of DVD. The DIVX player calls out to DVE once per month to transmit all purchases and charge the subscriber's credit card for the sales. It also informs the DVE computers of what movies the owner has rented in the course of a month. The DIVX Hack intercepts that call and makes the machine think it connected to DVE.

*"The DIVX Hack home page* is on the Niue domain. Niue is a tiny Polynesian fishing and resort island that has been selling its top-level domain, .nu, to American businesses because the number of .com addresses is rapidly diminishing. But the page makes requests back to a page on Xcom.com, a free hosting page. That page is the home page of 805, a group of hackers in the Ventura County area of Southern California. The order number for DIVX Hack is a voice mailbox in the 805 area code.





*"DIVX officials said they don't believe the box will work and caution would-be movie thieves against buying anything from a questionable seller. 'We don't think it would be any better than disconnecting your DIVX player and would caution consumers against sending \$150 in cash to a P.O. box in Ventura,' said John Dare, a spokesman for DVE.*

*"Because the DIVX Hack intercepts the modem call from the DIVX player to DVE's system, a player would eventually shut down, Dare said. It could not play DIVX discs but could still play standard DVD movies, he said, if the player does not connect to DVE's computer systems after a certain amount of time.*

*"One of the developers behind the Hack box, who would only give his name as Miguel, said he believes the DIVX Hack box is legal. 'When you buy a disc, it is yours - not property of DVE. It is your property and you can do whatever you want with it', he said. Dare disputes that, saying when a DIVX customer creates an account, they sign an agreement stating they agree to the incremental charges for purchasing viewing time with the DIVX disc. The DIVX Hack box is currently under review by DVE's attorneys, Dare said."*

Finally, there is the opposition to the purchase of North American Region 1 players and discs. Regional 1 product is openly advertised and sold in New Zealand, in Australia those who purchase USA product believe they are operating in a grey market area and routinely exhibit a level of concern that their present ability to do so may one day be shut off by government. This Internet posting from a DVD hardware and disc retailer in Australia.

*"Globalization is fine but in our limited market of 18 million people, we cannot support 100% globalization for every product and service. If DVD is going to exist in Australia, we must have support from the population masses, not merely the video enthusiasts.*

*"If everyone bypasses the middleman (who in turn employs staff, pays rent, pays taxes, etc.), sooner or later they will go out of business. Is this what you really desire? Is it not worth the extra (A)\$200 to keep an Australian business functional that it costs to purchase a DVD player here at home? We pay big import duties, and at the end may 'profit' by \$70 on a Toshiba DVD player: well under 10% of the retail price.*

*"When you go overseas to purchase DVD discs, you are recreating the same scenario that doomed laser disc from the outset. By not purchasing here in Australia, the laser disc volume never became significant. We retailers could never get good prices on discs or players because we bought so few. This kept the price up, which drove many buyers to overseas sources, which started the cycle all over again. We spent years trying to promote the laser disc player and discs - the typical customer came in the door, watched a demonstration, asked the price and then spit out - 'I can buy it for \$XXX less in Hong Kong' - and walked out the door.*

*"The same scenario is reoccurring with DVD. We show it off, they ask how much it is, we tell them - and they are gone like a shot to the nearest computer and Internet to buy one for as much as 50% less money.*

*"Discs? Same story, only worse. At least with the players we are reasonably current with our product. But the region 4 discs are three to nine months behind the discs released in Region 1. And Internet + four or five day air post delivery makes excellent sense. They can buy newer releases, or the releases we have in stock, for less money outside of Australia.*

*"None of this sounds like DVD is going to be a financial success in this country. K-Mart may be selling thousands of discs in the USA per day, but it will never reach the K-Mart distributor store level in Australia because the volume to support that level of merchandising will never happen. People have too many other options - other than DVD - and if they happen to get keen on DVD, it doesn't take them very long to discover our very meagre offerings here in Australia are but the tip of an iceberg. And a very expensive tip at that.*

*"Is the answer for me to join the crowd, buy my own product in the USA and then bring it here to resell? I'd love to do this, but regulations prevent me from doing so. So I will be forced to wait this newest technological marvel out, to see if something magic happens that changes the rules that now make it impossible for me to compete - at any level."*



# TECHNOLOGY BYTES

...BITS and BYTES you may have missed in the rush to make a dollar ...

March 5, 1999 ♦ VOLUME 99-2-55

## Satellite TV & Radio

**AsiaSat 3** - the satellite hardware - arrived at Russia's Baikonur Cosmodrome launch facility on February 20th and is now scheduled for launch to 105.5E at 23.57 UTC on March 17. It will replace AsiaSat 1, already a second hand bird when acquired and put into service for Asia, at that location. Assuming they do make the scheduled launch date, beacon signals could be seen as early as March 25. However, there remains the possibility that AsiaSat 3 will actually be tested "off station" at some location where it can be checked out prior to going into regular service. One such location is 122E where AsiaSat G is now functional. One of the problems with replacing an existing satellite is that the existing satellite must continue to provide service until the new satellite is ready (on a transponder for transponder basis) to go into operation. It is very difficult - often not possible - to check out a new satellite while operating an older satellite from the same location (because signals sent to the old one or the new one end up being retransmitted by the new one - old one - as well).

**Orion 3** which had been rescheduled for launch March 28 is now rescheduled for May 1. The (expanded) C-band + Ku satellite with coverage of the Pacific including Australia and New Zealand on Ku is scheduled for 139E.

**CMT** - Country Music Television is set to encrypt PAS-2 service (within California bouquet) with July 1 target date. The service has been transmitted in PowerVu since shortly after launch, has never been encrypted although cable TV affiliates pay monthly fees and individual home subscriptions have been accepted. Exact procedure for turning from a FTA to paid viewer is not yet clear, those without Scientific Atlanta D9223 or equivalent SA receiver will first need to acquire one, then arrange for subscription. Contacts? Try Ken Clark and Southstar Media in New Zealand which represents CMT there - tel 64-9-426-0481 and fax 64-9-426-0581.

**Greek TV** (Antenne) and three others may encrypt their presently free to air transmissions carried on PAS-2 as early as mid-March. The publisher of a Sydney Greek language newspaper, a financial participant in the distribution of Greek TV throughout Australia, has told an interviewer that his firm *"will no longer tolerate the situation which allows people to install their own (C-band) dish system to receive the Antenna service without payment."* The so-called Middle East bouquet is on 3778/1372V of PAS-2 in digital format, with Greek, Lebanon, Egyptian and Italian programming. This is a relay of the same service package which is distributed in North America through several (pay to view) satellite services. The PAS-2 link is considered a "feed" and is purposefully run at a signal level which precludes reception by smaller dish systems. The maximum likely number of free to air viewers, typically with 2.4m or larger antennas in Australia, at least 3m in New Zealand, is believed to be fewer than 100. Scalcos, the newspaper publisher, has made something of a "cause" of getting this FTA service into an encrypted mode, apparently to protect the financial interest he has in the resale of the service within Australia on Foxtel and Optus service platforms. He claims to be a "financial backer" of the service being brought into Australia. Foxtel and Optus typically charge A\$20 - A\$25 per month per channel for the services delivered via cable and satellite. It is worth noting that the cost of encryption would run into several million dollars over a five year period, not an attractive option for the system operators. Antenne TV presents some unique technical problems because it begins life as a SECAM standard signal, is transported across the Atlanta in NTSC and is again converted to PAL for use in Australia. A competitor, GAtv, is scheduled to launch on Optus Cable March 25 at a per home cost of (A)\$29.95 per month. GAtv is the brain child of the creator of Aerobics Oz Style, Harry Michaels, who claims to have "millions invested" in the project. GAtv apparently has no present plans for satellite distribution although it could be a fit within the growing family of Aurora platform

---

### **Orion says it is not so -**

A report appearing in SatFACTS for February 15th relates that a New Caledonia based firm plans a 5 programme channel service using Orion 3 when it launches. Two of those channels would be encoded pay to view movies and one of those would be (French) adult films. Orion now says it is not so, no such agreement exists and none has been negotiated with the programmer. SatFACTS did check with Orion prior to publication of the report and was told, *"Our policy is to neither confirm nor deny such reports from programmers."*





### **Aurora Stumbles Ahead**

Aurora, the Optus created digital stream that allows individual radio, TV stations and data sources to cover the complete continent, has activated a third transponder; one more is likely. The current operation includes Australia wide beams on the vertical polarity of Optus B3, using 12.407, 12.595 and 12.720 GHz. The fourth transponder for the package is now likely to be 12.345.

At the same time the use of horizontal polarity transponders on B3 for the pay television services (Austar, Foxtel and some vestiges of a now terminated Optus Satellite) has grown to four: 12.438, 12.564, 12.626 and 12.689.

The most recent additions to Aurora include:

Seven Central / TAL/ QQQ (on Aurora channel 40)

Win West (on Aurora channel 24) - see below

TAIMA (Radio) on channel 54

Seven Central is authorised to serve Queensland, NT, and portions of NSW, Victoria. Win West is authorised for WA only although there have been reports of successful activation of Aurora card receivers in portions of eastern Australia as well.

The Aurora transponders presently are being utilised as follows:

12.407 carries TV channels 1 to 20 inclusive plus radio channels 1 to 20;

12.595 carries TV channels 21 to 35 inclusive plus radio 21 to 44;

12.720 carries TV channels 36 to 45 and radio 45 to 63 - obviously additional, new services will appear on this transponder.

Aurora reliability, a function of the operational techniques being employed by Optus, remains "erratic" with significant variations in picture quality and conditional access stability on a daily basis. Some established channels (such as Horizon TV - channel 2) leave the air without warning and may be off for several days before returning.

New Western Australia satellite delivered broadcaster WIN is running 10 minute self-promotions that repeat until March 22 when regular broadcasting will commence. WIN is affiliated with the 9 and 10 national networks, while original service GWN is primarily a 7 affiliate. Aurora over the air authorisation is supposed to be "automatic" to all Western Australian viewers.

services now on offer. GATv, unlike Antenne T V and Mega TV (already on Optus cable) will be 24 hours relying heavily of Australian made Greek language product. *"If it succeeds" says Michaels, "there are many other business opportunities with Italian, Arabic and Chinese language channels."*

**Rumours** - not verified - persist that TARBS (Television and Radio Broadcasting Services Australia Pty Limited) will launch a new ethnic TV service utilising PAS-8 Ku band "by mid-March." Latest description of anticipated services - Greek, Italian, Cantonese, Indian, French plus MCM, Fashion TV, TNT/Cartoons and CNN. Try telephoning (Australia) 13007-TARBS or ++61-2-9776-2000. Firm also has acquired ex-Galaxy MMDS services located primarily in capital cities.

**Latest programmer** to affiliate with New Zealand Internet (IHUG) Group, also planning combined TV plus Internet data delivery via satellite - TNT/Cartoons.

**Fashion TV and MCM**, appearing briefly - two weeks - within Intelsat 701 RFO bouquet (4095/1055LHC: Msym 27.500, FEC 3/4) has shut down and are replaced with repeating promotion for French Telecom. Prior to FTV and MCM, Saudi Arabia and Abu Dhabi were using these two programme channels. There are plans - in France - to utilise this programme space for something "more entertaining." Not related - directly. RFO Tele Nouvelle Caledonie plans SCPC satellite distribution - probably I180 - with a hoped for start-date of late June. Stay tuned.

**This could be important** - the Intelsat Board of Governors has announced a new policy of "deregistering orbital resources in the geosynchronous arc." This means orbital locations which Intelsat now believes to be in excess of their actual needs will be put back into the pot to allow others to file for their use. Each satellite location is a resource, will support only one satellite for a particular frequency band, and spacing along the arc and between satellites is a "buffer zone" to control interference between satellites. Now the interesting part - 8 geosynchronous locations are being "deregistered" and they include 69E, 91.5E, and of greater interest to the Pacific - 180E. What this means for the future use of an orbital location where major satellite I701 now operates is unclear. However, Intelsat also has orbital locations at 174 and 177E although neither has been an important provider of television programming.

**This could be expensive.** In ongoing hearings involving US firm Comsat which represents United States on Intelsat Board, US broadcasters are asking why Comsat takes the Intelsat rates and "marks them up" to the





**Update - Authorising Disadvantaged Terrestrial TV Viewers for Aurora Commercial Services**

SatFACTS for February 15th reported that under circumstances which include the inability of a terrestrial TV viewer to receive normal through the air service, network 7, 9 and 10 satellite distributors would be prepared to authorise reception for such locations via the Aurora project.

The First Secretary's Office of the ABA has advised:

"The legal position of the A.B.A. in approving or otherwise of a single site receiving licence for an Australian household (business), not being an authorised re-transmission facility, is unclear.

The Authority has sought urgent clarification and referred the matter for legal opinion. Until that opinion is forthcoming, it is not possible to provide any Government opinion on the question raised. In so far as Licences for the establishment of re-transmission facilities are concerned (where the perceived benefit is to the whole or substantial portion of a community),

the A.B.A. can under appropriate circumstances authorise the establishment of a re-transmission service from any Australian satellite source, within current legislation."

This letter was issued early in March and reflects the current bureaucratic thinking on this issue.

profit of Comsat while the British administrator for Intelsat - British Telecom - does not do so. Which raises a similar issue for New Zealand. US regulations, like New Zealand, prohibit a private party (broadcaster or other) from dealing directly with Intelsat, require that you go through local administrator who in turn increases Intelsat charges largely to justify its own existence as an entity. US hearings point out that where British firms deal directly with Intelsat - something their regulations allow - there is no surcharge involved. More than one would-be user of Intelsat from New Zealand has been discouraged because the rates - already high - get higher when the local administration (a subsidiary of Telecom NZ) adds their own surcharge.

**Columbia Communications (CC)** has received American FCC approval to build a hybrid C + Ku band satellite for 172E; just east of PAS-2 and west of Intelsat at 174E. The new satellite plans coverage of New Zealand, Australia as well as Asia and Oceania. CC presently operates the commercial portion of spectrum on two of the NASA TRDSS satellites. No target launch date has been set.

**PAS-8 version** of California bouquet is active now on 3940/1210Hz (Msym 26.686, FEC 7/8). Present programme channels listing are: (1) Golf Channel, (2) occasional feeds, (3) occasional feeds, and (4) EWTN. Unfortunately, PanAmSat has chosen an FEC rate of 7/8 which directly affects the bit error rate (BER) dramatically. SA D9223 receivers reporting threshold is around 6.5 -3 whereas with the PAS-2 California bouquet using an FEC of 3/4 the threshold point is closer to 4.0-2. This means dishes that might in theory have acceptable reception are and will continue finding the threshold point significantly higher - resulting in loss of signal more frequently.

**NHK** is now operating full-time on PAS-8 (4065/1085 - try down as low as 4061 as well if it will not load) with Msym 26.470 and FEC of 3/4. If you have trouble getting this to load on PAS-8, check the installer menu Network ID number. If it says anything other than 8201, change it. (Note: CTD loaded a new D9225 IRD for NHK on March 1 and it would not load until we entered a network ID number of 5201 - 5 being for PAS-5 which is not anywhere near to Asia or the Pacific. This suggests the NHK PAS-8 data stream is capable of being wrongly sent or that an IRD originating in Japan - as ours did - can be mis-filed as a PAS-5 IRD.)

**PanAmSat PAS-8** analogue test cards previously operating on Hz side have been turned off - no announcement whether they will return (3860 and 4020). They had been good identification beacons for those attempting to locate the (new) satellite.

**PAS-8 carrier** found on 4166.85/983.150Hz is 8 megabit New Zealand IHUG data service - in case you wondered. No, it will not load with a standard IRD.

**NBC feeds** (to Australia) are found on occasional basis on Intelsat 701/180E at 3962/1188LHC with Msym 6.448 and FEC 7/8.

**CNBC** has opened a new digital production facility in Singapore allowing digital throughput from cameras to user's IRDs.

**CCTV-1** has joined the Chinese bouquet on PAS-2, 3716/1434 Vt.

**ChinaStar 1** (87.5E) analogue service reported on occasional basis, 3875/1275Hz.

**BBC World** has restarted on California bouquet (PAS-2, 3901/1249Hz) because of reception problems with their new home at PAS-2 3743/1407Vt. BBC advises they will continue as a part of the California bouquet and on the troublesome 3743 spot until a new location can be found for them on PAS-2. The 3743 location is a transponder shared with the Chinese bouquet and this arrangement which dates back to the operation of TVSN as an analogue service sharing with the Chinese bouquet has been difficult.

**Encryption** of the Hallmark and Kermit channels currently carried on ApStar 2 was to have begun on February 28. The twin services have been FTA for several months, part of a marketing launch programme to



**Broadcast Australia Annual "Show" - was not**

Perhaps it was a sign of a pay TV and data industry suffering from massive capital outlays and greatly reduced revenues. Perhaps it was bad planning, bad organisation, bad advertising and promotion. Or all three. Reports from the Darling Harbor (Sydney) 1999 "trade" show reflect very little trading and a shortage of both exhibitors and attendees. CTD interviewed several people who attended, as exhibitors and as conferees and universally found the following views.

*"The conference was moderately successful, but the technical lectures were far too heavily laced with promotion for the presenter's products or concepts of products not yet real."*

*"The displays were scant in number - it took me one hour to go through all of them, stopping at each and learning all there was to learn."*

*"Noticeably missing were the pay TV folks - no sign of Sky, Foxtel, Optus Vision, Telstra, Austar and Mediasat."*

*"The only truly new product or service at the show was the UEC single chip satellite IRD. They may well have a winner here but are unlikely to be able to beat other serious one chip contenders from Europe."*

*"CNBC gave away very nice gifts but the lady in the booth seemed to spend all of her time in the loo!"*

*"There is a significant and growing interest (within Australia) to convert old style double sideband modulator headend MATV systems to broadband SMATV (satellite master antenna). A few would-be hardware suppliers were on hand to promote the concept of doing away with limited bandwidth distribution systems but unfortunately many of the products offered were double sideband cheapies which doesn't result in a real upgrade at all."*

*"If the decline in attendance and exhibitors this year is followed up next year, I don't think there will be enough starters to get a show up and running. I understand the promoters are considering merging two separate conferences into one to bolster numbers."*

attract cable affiliates inside of India. Encryption format is SA PowerVu which will be an interesting challenge for the Indian cable operators.

**MCM Asia** is reported on Palapa C2 3800/1350Hz in PAL, FTA. This one has been made of rubber of late bouncing over three locations including 3720/1430Hz and 3960/1190Hz.

**Strange interloper?** AsiaSat - the operating company - tells CTD they have discovered an unknown digital carrier inside of the WorldNet analogue transponder on As2 (transponder 7B, 3885/1265Hz). The extra signal appeared simultaneously to the operating power level of the As2 analogue signal diminishing by as much as 4 dB, suggesting that while AsiaSat may not know what is happening, WorldNet does. WorldNet was scheduled to begin distributing approximately 20 new audio channels for Voice of America during February and the two or three events are probably related. Users of WorldNet from As2 report significant signal level reductions since all of this started, in some cases cable systems have been forced to eliminate WorldNet from their carriage because of the degraded service level.

**TPI digital** service reported on Palapa C2 on 4194/956Vt with Msym 6.700 and FEC 3/4.

**Digital testing** is reported on Russian Express satellite located at 80E: 4080/1070RHC, Msym 13.018 and FEC 3/4.

**Unknown B-MAC** signal on Measat 1 (93.5E) on 4120/1030Hz.

**AXN** (Chinese service) on ApStar 2R using Scientific Atlanta D9223 is now available on individual home subscription basis; agents have been appointed in many countries.

**Indovision S-band** receiver system modification kits have arrived in Papua New Guinea, having been available within Indonesia for approximately two months. The PNG version is without the 81cm S-band antenna but is otherwise complete.

**Deutsche Welle** (DW) free to air host service within European bouquet (As2) rearranged its compliment of 11 radio services February 23. Audio channels had originally been arranged as 11 dual channel mono, allowing the choice of either stereo sound (using two mono channels) or unrelated audio services on each of the mono audio channels. The new mono-only has radio services as follows: (6) DW1, (7) DW2, (8) DW4, (9) DW5, (10) DW6, (11) DW8, (12) DW9, (13) YLE, (14) WRN (World Radio Network), (15) REE, (16) RFI-1 (Actualite Internationale), (17) RFI 2 (Asian languages), (18) RFI music, (19) RNW, (20) RAI Radio International, (21) RCI Radio, (22) SRI-Asia. Within the TV broadcast group of the European bouquet, Service 1 (DW-TV) has stereo audio, as does Service 3 (RAI) and Service 5 (TV5 Asia). Audio services (6 through 22) have the option of being dual mono (Service 14, WRN) or stereo (Service 6, DW1 and Service 18, RFI music). DW4 and DW5





### Foxtel Satellite Launch

...began on schedule March 1 with early marketing concentrating in Victoria around the Melbourne area. Foxtel claims "more than 8,000 homes are now on an install list" for the new 21 to 26 channel (number is optional and price sensitive) service delivered like Austar via Optus B3. It is pricey. Satellite installs are (A)\$199.95, people are required to pay the installation fee plus the first month's service in advance at the time of installation (or prior), and sign a 12 month contract that includes penalties for premature escape from Foxtel. Approximately 25 Comet hired installers are at work in the Melbourne district, typically doing 4 new installs per day; more are being hired as the announced order base of 8,000 will take more than 3 months to get through. Some consumers have been told they will be "scheduled" in June for installations at this point. Foxtel is believed to have 15,000 ex-Galaxy DGT400 IRDs available for the initial round of installations, a "boatload" of UEC IRDs is anticipated to arrive in Sydney shortly. Foxtel cable subscribers are now being charged (A)\$44.95 per month for a package of channels that is larger than the largest satellite package offered, which costs \$67.95. Foxtel claims "40,000 ex-Galaxy satellite subscribers" from their take-over of last June. Internet discussion groups continue to reflect public opinion concerning the launch of Foxtel satellite (i.e., Foesat). Some excerpts follow.

*"I called Foesat last Sunday, but the computer was down so they asked me to call the next day. I recalled them on Monday and they said someone would call me back later in the week with details and book a time. No such call. On Friday I called again to book the installation, but their computer said my house was a business address and they will not book a business installation. OK, so I asked them to correct their computer record but it turns out they do not have a procedure to do that! So they asked me to leave it with them for now and to call again next week if I don't hear from them. I wonder what problem they will have the next time I call!"*

...  
*"Regarding the new channels, my kids like Fox Kids but love Nickelodeon shows more. I like UKTV much more than the other channels but am confounded why there are Australian bred and born shows on this channel! The History channel is better than I expected. However, the package remains too expensive and I would prefer to have Fox News and separate channels for TNT and Cartoons."*

are new German audio services launching on March 28. Users of the European bouquet are advised to "reload" their IRDs to activate the new channel listings.

**Deutsche Welle** admits it is pursuing creation of a second - commercial - "European bouquet" for delivery via AsiaSat - 3S is a possibility. Second MCPC package would go through Israel, possibly contain Fashion TV, MCM and others. MCM remains committed to leaving present bouquet, wants to broaden number of programming channels delivered - but, cannot get out of agreement with European bouquet partners unless it locates a replacement for present spectrum space. Most likely replacements continue to be a Greek service channel or a Turkish service. DW has closed own controversial, never operating, 'Net on Air' arrangement with German firm that had hoped to deliver formatted Internet service using vertical blanking interval of DW-TV service. December 31 was the last day the agreement was in effect.

**A ten metre dish**, ex-USA but stored in Australia for approximately 7 years, is on the way to Norfolk Island where it will be used to receive SBS, ABC and possibly other (Aurora) package signals. Norfolk has been dependent upon B-MAC analogue feeds for its low power TV retransmission service and the B-MAC services are scheduled to close down before mid-year. There could be some problems - at least one key part of the 10m dish is missing, another is reported to be badly damaged. The dish and some digital receivers have been purchased by the Norfolk government body - reportedly the dish is costing them just under A\$30,000.

**UEC's new single chip** (model 700) any-CA-system satellite receiver, shown in advanced prototype format during Sydney Satellite & Cable Show (mid-February) has some surprises. IRD is to handle mega symbol rates from 2 to 30, with a video stream data rate of 15 Mbits/sec plus an audio stream of 448 kbits/sec. Although IRD was explained during show as being capable of handling anyone's conditional access routine through a downloading sequence originating at the programmer, UEC has apparently selected Irdeto as "master decode chip" supplier. The present UEC 642 sold in Australia for Aurora and other purposes is also Irdeto, but not as sophisticated as the new Irdeto CI (Euro 1 - common interface) chip system. Receiver shown had 3 SCART plugs plus RCA (phono) sockets for various audio combinations; there was no video through an RCA socket (which means the receiver must have a SCART cable to function). Other: IRD will be able to control external





VCR (playback and record), has built-in Hayes family modem, teletext processing via VBI reinsertion (following "Open TV" practice), smart card and bank card front panel slots, a pair of L-band connectors (for loop through applications to a second receiver) and multiple fixed and volume variable audio outputs. No announced target date for delivery - not likely before August, however. UEC document number 050 01353 (dated late in 1998) describes IRD in technical detail. UEC model 642 presently carries "dealer list" price of A\$675, is expected to *"come down in price sometime over next 60 days."* Model 660, which has been shown as advanced version of 642, was to have A\$600 "dealer list price" but now apparently will not be offered through existing Australian distributor Nationwide Antennas. Reason - when single chip model 700 is available after midyear, it is expected to have price of A\$525 (dealer net), do everything 660 does and more. The UEC660 model has been used extensively by the Australian TAB group - a sale that went directly from UEC to TAB - (between 5,000 and 8,000 units) and reportedly it is unique with UEC IRDs delivered to date - the decoder and the smart card must "match" or the IRD will not function (Note: there is a technique for 'divorcing' the IRD from the card - see page 6 of UEC 660 manual).

**(Australian) Sky Channel** service is in midst of analogue to digital change-out, new UEC 660 model IRDs being installed. Project began mid February, is scheduled to be completed by 17 April. Typical installation by Sky contract personnel is 2.5 hours, involves repointing of satellite dish, installation new IRD, and accessory equipment. Pin number for installation of UEC 660 is 9949.

**Microtune, Inc.**, a "start-up" firm in the USA, has announced development of their MicroTuner 200 IC chip which provides a one chip source for receiving and processing analogue or digital television, radio or data signals including satellite services. The thumbnail sized chip will be available for hardware designers sometime around mid-year.

**SMS receiver** used by Austar as a modern day replacement for original DGT400 IRD has installer pin number of 2878 - previously not known. The IRD from reports will do C-band, but poorly with significant sync problems. There appears to be two versions of the SMS IRD, earlier models will handle C-band including NBC services while current model (both share same model number) will not. SMS will function on Aurora platform and loads in a manner similar to the UEC-642 on that service.

**Not possible.** IRDs designed for use in UK with BSkyB project have several software "blocks" which cannot be field modified to allow the Digibox to be used on a service such as Sky NZ (Austar, etc.). First of all, the IRD has no real "installation menu" which means the parameters built into the receiver at the time of manufacture cannot be modified by an installer. Amongst the things it will not do: (1) Any C-band operation, (2) Any non-NDS conditional access (CA) encrypted service, (3) Any programme package that utilises a megasymbol (Msym) rate other than 22,000 or 27,500 (the only two installer/user options built into unit). A box imported to New Zealand failed in an attempt to modify it for Sky NZ use, even with assistance of original manufacturer Grundig. Bottom line - don't bring one "out here" unless you only wish to put it on a shelf to admire. See more detailed report in SatFACTS for March 15.

**Not likely.** Sister publication SatFACTS in running down the latest rumours and apparent facts concerning "piracy" of Austar and Foxtel satellite services has made contact with Europeans who are responsible for the many (more than a dozen) Irdeto versions of pirate cards. SatFACTS asked whether cards were now available for Austar or Foxtel for Australia. Note that the only known sources for "commercial" piracy cards in the Irdeto world are located in Europe and we believe we were in contact with the "mother lode" of this nefarious business. We were told - *"There are no Australian version cards currently being produced, and further more no such cards are likely any time in the future. To counteract ECM (electronic counter measures - a trick employed by the programmer and Irdeto to invalidate piracy cards), it is essential that we have direct access to the services which the cards work to decode. We cannot receive the Australian services here, nor those from Thailand, and as a consequence we will not supply cards for these services because we would not be in a position to back up the card's operation with revised cards after an ECM 'event' occurs."* Translation? The piracy cards circulating in very small quantity in Australia are 'home-brew', are not originating in Europe and from what we have been able to learn, the Australian bred cards do not at this time have the refinements of their more sophisticated European cousins. All of which is one more reason to avoid this end of the business. Having said that - the latest super deluxe piracy equipment web site is at [www.hisat.com/main.htm](http://www.hisat.com/main.htm).

**News Corp** has purchased 80% of Italian pay satellite firm Stream. An investigation by the ITC into the method used by BSkyB to package premium movie and sport channels is the latest threat. In question - whether packages of programming as priced by BSkyB preclude meaningful competition from developing in the UK.

**Sky Channel (Australia)** is trying to give away, free of cost, approximately 5,500 B-MAC analogue decoders. In the conversion to digital, the older devices suddenly have zero value - *"Not even worth picking up"* according to a Sky source. Also available - B-MAC encoding equipment, free of charge, if you want to set up a network! Contact Eileen McCarthy, International Sales Manager at ++61-2-9451-0888 (fax ++61-2-9972-7681).

**Consolidation.** USA satellite TV pioneer DirecTV is buying the interests in competitor Prime TV plus two high power DBS slots for an announced price of US\$1.82 billion. Being sold - 160 channels of medium power



## Aurora Project TV (1-03-99)

Programme Channel	Identification	Content
1	TVSN	Shopping Net
2	HOR	Learning net
3	not in use	
4	BTV1	Business service
5	BTV2	Business service
6	BTV3	Business service
7	Sky1	(TV) racing
8	Sky 2	NSW TAB radio
9	Sky 3	Vic TAB data
10	Sky 4	WA TAB radio
11	Sky 5	Comms circuit
12	Not in use	
13	Not in use	
14	Not in use	
15	Not in use	
16	Not in use	
17	Not in use	
18	Not in use	
19	Not in use	
20	Not in use	
21	ABC TV WA	Regional TV
22	GWN TV	Reional TV
23	WLK	Westlink Educa.
24	WIN	Regional TV
25	Not in use	
26	Not in use	
27	Not in use	
28	Not in use	
29	ABC TV NT	Regional TV
30	IMP TV	Regional TV
31	IMP PTTV	CBTV Bus & Ed
32	Not in use	
33	Not in use	
34	Not in use	
35	Not in use	
36	ABC TV SA	Regional TV
37	Tests	audio only
38	Tests	audio only
39	ABC TV Q	Regional TV
40	Seven Central	Regional TV
41	SBS Qld	Regional TV
42	SBS Q Data	Tests

## Aurora Project Radio/Data (01-03-99)

Programme Channel	Identification	Content
1	R1	SMA Contemporary
2	R2	SMA Top 100
3	R3	SMA Cool Vibes
4	R4	SMA Classic Gold
5	R5	SMA Country Beat
6	R6	SMA High Energy
7	R7	SMA Rock
8	SMA Bus 1	Woolworths
9	SMA Bus 2	background music
10	QTAB	Qld TAB
11	NIRS	Indigenous Radio
12	RPH	Print Handicapped
13	BBC WS	BBC World Svc
14	CBA	Community Radio
15 - 17	Not in use	
18	UCB	Christian Radio
19	SMA ITA	Radio Italia
20	REF TONE	Test signal
21	RABS TONE	Transmitter tone
22	ABC FM WA	Regional classical
23	ABC RN WA	Regional informa.
24	ABC RR WA	Regional radio
25	990AM	Sight impaired
26	Not in use	
27	ABC JJJ	Youth radio
28	ABC PNN	Parliament, news
29 - 31	Not in use	
32	ABC FM NT	Regional classical
33	ABC RN NT	Regional informa.
34	ABC RR NT	Regional radio
35	IMP R1	CAAMA Radio
36	IMP R2	TEABBA Radio
37	IMP R3	5PYM Radio
38	IMP R4	NT TAB
39 - 44	Not in use	
45	ABC FM SA	Regional Classical
46	ABC RN SA	Regional Informa.
47	ABC RR SA	Regional radio
48-50	Tests	
51	ABC FM Q	Regional classical
52	ABC RN Q	Regional informa.
53	ABC RR Q	Regional radio
54	TAIMA	Private user
55	SBS R Qld	SBS radio-Qld





### Actor Dustin Hoffman on Movie Rating System

"Kiss a tit and you get an X, lop it off and you get an R."

TV programming delivered from 85W and satellite transponder assignments at 119W. DirecTV will after sale closes control 32 transponders at 101W, 3 at 110W and capacity for 90 programme channels at 119W (11 transponders). They have announced plans to inaugurate high definition (HD) TV from 119W. Although the three locations cover a geostationary spread of 18 degrees (101 to 119), Hughes believes it can configure a single 18" dish antenna which will provide reception from all three locations so that users can select between SDTV, HDTV and Internet from a single dish system. DirecTV plans to continue the medium power Prime service for two years, gradually folding its users into the larger DirecTV family. In terms of cost per (Primestar) customer - it works out to around US\$400 per subscriber - a bargain in the pay-TV world. One major loser - USA Radio Shack chain which last year sold a reported 110,000 Primestar systems contributing 5% of the annual Radio Shack Profit (or, US\$21 million). Radio Shack received \$149 for each installation, carried 90% margin on sales. They also received residual (renewals) income estimated at US\$2 million in 1998. Satellite TV (DBS) presently serves 10% of all US homes, is highest in state of Montana where 31% of homes have satellite TV.

**EchoStar DBS** provider, assuming certain assets of News Corp/MCI WorldComm satellite TV interests in North America, will end up issuing 31.8% of common stock to News + MCI, who would have 7% of voting power. EchoStar CEO Charles Ergen (and family) will retain 93% of voting stock.

**High cost of digital start-up.** BSkyB had losses of US\$77.9 million on US\$672.8 million revenue in second quarter of fiscal year against profit of US\$23.1 million on revenues of US\$616.9 million year earlier.

**Sciteq** (tel ++61-8-9306-3738, fax ++61-8-9306-3737) has received its latest container shipment of KTI dish antennas; CKD-10 (3m), CKD-12 (3.7m), XI-7.5 (2.3m sectional) and SI-10 (3m sectional).

### Consumer Electronics

**Only in NTSC** - initially. Samsung is delivering what industry calls "maverick recording system" using VHS tape which allows 125 hours of programming to be recorded on 3 hour tape blank (T-180). "Ultra long play" system appears in US\$199 VR8809 Hi-Fi model, runs tape at 1/5th speed of standard play VHS (EP/SLP speed is 1/3rd standard play speed). The system is called "maverick" because Samsung has not completed legal formalities with VHS licensee grantor JVC and JVC suggests the system may not receive VHS certification because at this slow tape speed, there would not be compatibility (ability to interchange tapes to other VHS machines). A similar attempt was made in 1991 when Nokia and Sanyo announced Active Sideband Optimum technology - this 15 hour version never reached the marketplace.

**Price wars** in new digital home camcorder field are forecast. Sony's Digital-8 (D8) format with US\$899 entry level pricing is drawing competitors including Canon, JVC and Panasonic to a decision on competing directly with the low cost digital entry. Canon introduced a Mini-DV (VHS-C family) digital format year ago, sees Sony's move as another tape-size standards war (as with analogue between 8mm and VHS-C mini-tape).

**Tiny digital still camera.** Fuji is showing off new 8 ounce 2.3 million pixel CCD camera that measures 3" x 4" x 1" with price tag of US\$830. Camera has 2" colour viewfinder, 2.5X telephoto capacity, will record 142 images on 32 Mbyte memory card. Model number is MX-2700.

**NTT of Japan** has developed a heads-up display system connected to a GPS receiver which allows a vehicle driver to have upcoming street crossing names and other information flashed onto the windscreen. GPS receiver determines where you are within 0.1 second of request, searches memory of software for area you are driving in, computes the next crossing street and then displays it on the windscreen.

**DVD** accounts for 2% of all rentals at Hollywood Video chain stores - they say this is "*the fastest growing new category we have ever introduced, including new video game formats.*"

**DVD players** in North America - 266,513 units sold during month of December. DIVX claims they sold 62,000 players (part of earlier total) in December through Circuit City stores.

**How rental DVD works.** One firm, Rentrak, does it this way. Retailers pay (US)\$3-\$5 per DVD disc when they take delivery, have options as follows: (1) Keep discs one year and return - or - pay \$2-\$3 to retain disc; (2) After initial 60-120 days, retailer can opt to purchase disc at that point for (US)\$3-\$8 per disc. During rental period, retailer retains 35-55% of each rental fee paid, sends balance to Rentrak which in turn sends payments to movie rights owners, retaining a small cut for itself. When retailer buys discs outright, he retains 100% of rental fees past that point. Deal assures movie rights owners of rental income for minimum of 60 and maximum of 120 days, longer if retailer does not opt to purchase disc at that point. Discs while owned by Rentrak are considered "on lease" to retailers, are covered by master contract. Rentrak had gross sales of US\$92.8 million for first nine months of its current fiscal year.





### FCC hearings on broadcaster influence on content-

President of WNET-TV and former president of Westinghouse: *"Can we seriously suggest that Fox Broadcasting's service is not influenced by the views of Rupert Murdoch?"*

**Region 1** digital video discs which have routinely carried extra Spanish language sound track may be more difficult to source as result of move by producers. DVD technology allows for extra audio tracks at no particular additional expense but there is now evidence virtually all of the Spanish discs are being exported outside of Region 1 to Central and South America which are located in Region 4 (the same as NZ and Australia). In an effort to stem the sale of Spanish discs, Warner Home Video and USHV are cutting back or curtailing the Spanish extra language procedure. Columbia TriStar Home Video says it will continue, for the present, the practice of including the Spanish language track. The decision is a tough one - more than 9% of all Americans are in Spanish speaking homes and in some markets such as San Diego, San Antonio and Miami, up to 50% of homes are Spanish. DVD sales in USA hit 1.3 million sold in January alone. The concern, of course, is how many of these actually stayed in the USA.

**UK based retailer Maplin Electronics** has caught attention of the movie industry with a DVD player it sells in Great Britain for US\$575. Reason? The deck plays any region disc with complete control over region selection from IR (remote control) unit. Branding on deck is SMC, made in China. Model 330 deck was introduced in London store in mid-February, sold out same day from word of mouth advertising. Unit comes out of box with proper British Region 2 entered but instructions tell user how to modify regional playing to any of the 6 world regions, or to "Region 13" which is euphemism for "region free." What Video magazine in March (1999) issue reports on technical design of unit, discovered it is actually PC grade DVD-ROM drive instead of a video player mechanism. The drive makes an unusually large amount of operational noise. "Real" DVD players utilise Intel processor chip - this one uses a C-Cube Ziva chip which is significantly less expensive (and less efficient) and was not designed for DVD use in the first place. DVD player makers are required to code player for one region - although many are easily changed to a different region by user. None is as easy to change as the SMC 330 unit, according to reports. However, PC based DVD-ROM players have no such rules and apparently the manufacturer is taking advantage of this technical loop hole to package a PC device into its own tabletop housing.

**Adult material** on videotape (and shortly - on DVD). Some statistics from annual survey all several thousand retail stores renting video product in North America. (1) Volume of (US) 4.1 billion in 1998 (down from 4.2 billion in 1997); (2) 686 million videos rented in 1998, versus 697 million in 1997; (3) Typical retailer had 28.9% of rental and sales attributed to "adult" material while - (4) Typical retailer has 19.7% of his total inventory in adult materials; (5) Typical retailer has 479 VHS adult video tape inventory but varying widely by geographic location (New England leads with 756 tapes per store average, Florida-Georgia-South Carolina are lowest with 288 tapes per store). This suggests that adult material rents more often, for greater revenue, than "general release" product.

**Legal music via Internet?** Go to RioPort.com for gateway to more than 40 "legitimate" music sources with no apparent copyright problems. There are others with high corporate profiles entering the "music via Internet" world - IBM has announced a deal with 5 major record label companies (BMG, EMI, Sony, Universal and Warner) to distribute recorded music using a "secure" technology that downloads entire CD "in minutes time" to IBM created set-top box via a cable television system. A trial lasting nine months will be starting in San Diego using a Time Warner cable system. AT&T has proposed their own "secure" system which is called A2B. Sony, meanwhile, began two week trial of "music video over Internet" in Japan February 15th. System charges US\$2.59 to download material. A related (but not the same) Sony site worth checking - <http://www.sme.co.jp/DAP>.

**AOL** (America On Line) now claims 16 million subscribers.

**Christian Internet** provider (ISP), AmerVision-Lifeline with operations in Oklahoma City and Chicago calls itself "The Conservative Telephone Company." Firm offers "filtered" Internet access designed to prevent 'clicking' to any sites which they believe may contain sexual or violence material.

**Sony Walkman** sales slumped 51.4% world-wide in most recent reported quarter year but firm still expects sales totalling 10 million units by fiscal year end March 31.

**Disney** will release animated classics on open DVD format "by Christmas" (1999). Disney is not a totally happy participant in the DVD world at this time, cites "30% reject rate" at replication plants, "ongoing concerns about DVD duplication security" as two reasons. Their Armageddon has sold 510,000 (DVD) copies through mid-February.

**Intertan**, operator of 1,150 Tandy Stores in Australia and Canada, has sold 270 stores in UK and is closing approximately 70 not a part of the sale. Australian position seems secure - store sales rose 16.2% during 1998.

**JVC** has signed to be corporate sponsor for 2002 World Cup games, scheduled for (South) Korea and Japan.





**Teletubbies doll**, from Microsoft developers, when placed near TV receiver will obtain instructions from TV and perform based upon those instructions. Doll dances when on screen audio asks question, "*Do you want to dance?*" Instructions are sent via horizontal overscan blanking period, travel only a few feet from TV receiver which in turn prompts small viewers to keep their Teletubbie doll close at hand and near to TV set during programming. Interactive toys from Intel and Mattel, so-called "smart toys," will be widely introduced during 1999 selling season around Christmas.

### **Cable/Fibre/MMDS/Pay TV**

**Zenith IRD** problem for Sky NZ. Terrestrial signals, that are supposed to loop through the digital satellite receiver to form composite of Sky + terrestrial analogue - don't, very well. Sky is aware of problem, suggests utilising signal splitters to "go around" the Zenith box with terrestrial signals but solution makes it impractical to feed the Sky + terrestrial package properly to additional TV sets in same household. Solution - other than building a customised set of signal processing hardware for each Sky home, is to use the Pace model IRD in lieu of the Zenith. Other learning curve challenges for Sky: (1) Audio (volume) levels on some channels on some IRDs vary widely. A Sky software download is being selectively employed to correct this problem. (2) Sky software downloads (instructions sent to decoders via the satellite) are locking up some innocent units. Attempts to upgrade IRD operating parameters, or in the case of Zenith IRDs correct for a factory defect with new software, are having the undesirable effect of locking some IRDs into a non-operating state. Most downloads are performed during the night, viewers turn their systems back on and find the IRD appears "dead." Solution is to perform a "hard reset" on the IRD. (3) Hard reset problems. A Zenith IRD can be hard reset (for example) if during the initial turn on and activate stage the installer is prepared during that brief instant when the IRD screen turns "green" to push all four control buttons on the IRD simultaneously. This will force the IRD to reload parameters which usually corrects defective software lodged in the unit during an overnight download. However, there is a downside to this. If the IRD UHF modulator - for example - had previously been adjusted to a UHF channel other than the factory default channel 38, doing a hard reset will cause the modulator output channel to revert to 38. (4) Pace units will create strange interference patterns on the picture if the (local) terrestrial channels fed through the IRD from the off-air aerial exceeds 80 dBuV. Virtually any terrestrial aerial system equipped with a masthead amplifier will cause "45 degree pixels" and/or a white horizontal bar that rolls up the screen on the Sky image because of inadequate isolation between the terrestrial signal line and the Sky IRD's internal UHF modulator. The solution is not a good one - reduce (attenuate) the level of terrestrial signal which immediately degrades the quality of off-air reception creating further signal level problems for homes with two or more TV sets connected through distribution systems. This hint - the latest Sky software load to IRDs appears at the top of the installer's diagnostic screen - if it says "Sky TV Network 11a," this is the old (near original) software. If it says "Sky Network TV 110," the software is the current version.

**Papua New Guinea** National Court decision reported in CTD for January ("The Papua New Guinea Copyright Case," p. 7) has been appealed to the country's Supreme Court. Lawyers for the plaintiff presented 12 grounds requesting a review of the case by the Supreme Court, defendant's lawyers responded by moving to strike 8 of the 12. Next - Supreme Court decision whether they will accept case on appeal.

**Optus Vision** is quoted at the highest levels as having decided not to enter the satellite television distribution world - after all. In the no-surprise announcement, Optus says it will be concentrating its corporate efforts into expanding the customer base for cable TV + telephony customers during 1999, will not be a satellite DTH provider. There remains the possibility that Optus may offer some form of pay-TV channels through its Aurora platform which was established to provide a digital replacement for the pre-existing B-MAC analogue delivery service for ABC, SBS and regional television broadcasters. Aurora utilises Optus B3 along with the Austar and Foxtel pay-TV services but does so with a different coverage pattern (footprint) and set of technical parameters that does not perfectly fit the Austar and Foxtel coverage zones. A number of ethnic TV programmers have announced they are "talking with Optus" about distributing programming for narrowcast groups (such as Mandarin speaking residents of Australia) but to date no such group has actually signed up to be a part of the Aurora service.

**Austar pay satellite** service has modified its installation format - installers no longer arrive at customer home with pre-enabled smart card. After installation is complete, installer must contact Austar control centre to have specific IRD + smart card turned on, a process Austar describes as "going cold." Austar is attempting to close some of the "cracks" in its security system, and eliminating hundreds of technicians running about the countryside with cards which were functional before they were installed.

**AT&T** has massive nation-wide US cable telephone plan. AT&T "branded" telephony service delivered to homes and businesses through existing cable television systems will reach an estimated 40% of total US market. AT&T is in process of merging with cable giant TCI, has now struck telephony deal with Time Warner to pass an additional 20 million homes. AT&T will in the process make the already wealthy cable operators even more



